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**P0183**  
**OUT-PATIENT CLINIC TREATMENT AND NUMBER OF HOSPITALIZATIONS FOR ASTHMA. A PILOT STUDY**  
R.D'Ippolito, A. Chetta, M. Del Donno, E. Marangio, B. Benoldi\*, A. Zollino, D. Olivieri. Dpt. of Resp. Dis., Univ. of Parma and \*DRG Serv. of Reg. Hosp., Parma, Italy.

During the last few years, morbidity and hospitalizations for asthma are constantly growing in western countries, causing a rise in social costs. We examined the trend of hospitalizations for asthma to ascertain whether out-patient clinic treatment may influence the number of hospitalizations for asthma. Total hospitalizations, first admissions, and asthma relapses were recorded over a period of six years: from 1987 to 1992. The out-patient clinic for asthma was established in January 1989. The mean age ( $\pm$ sd) of admitted patients were: 50.6 $\pm$ 12.8 (1987), 53.9 $\pm$ 14.5 (1988), 49.6 $\pm$ 13.3 (1989), 50.7 $\pm$ 13.2 (1990), 44.2 $\pm$ 14.4 (1991) and 44.3 $\pm$ 12.1 (1992). The number of total hospitalization for asthma, of first admissions for asthma and asthma relapses, expressed as percentage of all hospitalizations in our department, are listed below:

	1987	1988	1989	1990	1991	1992
Total %	3.6	5.0	4.8	4.4	2.6	3.0
1st admissions %	0.6	1.5	1.3	2.9	1.7	2.1
Relapses %	3.0	3.5	3.4	1.5	0.9	0.9

In conclusion, we observed a decrease in the number of patients admitted to our department for asthma relapses since the out-patient clinic was established (1989). This suggests that out-patient clinic treatment may reduce hospitalization for asthma.

**P0184**  
**UNDERTREATMENT OF ASTHMA AND COPD BY THE DUTCH GENERAL PRACTITIONER?**  
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A national guideline for good care on asthma and COPD was developed by the Dutch College of General Practitioners aiming to improve the level of care. Before implementing this national guideline, a baseline study was performed in 63 general practices to measure the actual level of care, with the following indicators.  
\* Contents of consultations.  
\* Knowledge, skills, self-reported routines and limiting conditions. Medication prescription patterns (pulmonary medication in one year, about 80.000 receipt records).  
\* Patient opinion on provided care (n=902).  
\* Disease severity of asthma and COPD-patients (Dutch version of MRC-questionnaire, n=902), including lung-function (FEV<sub>1</sub>, FVC, PEF) for a sub-group (n=382).  
\* General and disease specific functional status of asthma and COPD-patients (questionnaire, n=902).

The results show that there are great differences in the actual level of provided care. Concerning the diagnosis the guidelines were followed in 62% of all consultations studied. Concerning the prescription of anti-inflammatory drugs it was followed in 69% of the patients. Concerning drug-treatment of exacerbations it was followed in 53% of the cases. Regular follow up was performed in 48% according to the guideline. The implementation of the national guideline should focus on the above mentioned topics.

**P0185**  
**AN AUDIT AND INTERNATIONAL COMPARISON OF ASTHMA MANAGEMENT IN THE EMERGENCY DEPARTMENT**  
M.J. Epton, C. Skidmore, J.J. O'Hagan, R. Wood-Baker, G. Town.

An audit was performed of asthma management in the Christchurch Hospital Emergency Department during the period March 1987 to August 1988. Data was collected on specially designed asthma treatment sheets. All adult cases, including repeat attendances, were analysed. This data was compared with similar studies performed in Wellington (NZ) and Southampton and Leicester (UK). 759 cases were analysed. Most subjects were in the 15-25 year age group. 47% were taking inhaled corticosteroids at presentation. History taking was satisfactory according to guidelines operative at that time. Objective measurement of asthma severity such as peak flow rate at presentation was performed in 79% of cases, and in 67% of cases following treatment. Nebulised bronchodilators were given in 88% of cases and parenteral steroids given in 22% of cases. 46% of cases were discharged home and of these only 28% received a course of oral prednisone. All management decisions except the decision to give oral steroids on discharge showed a relationship to objective indices of asthma severity. Comparison with other centres shows that treatment of asthma in Christchurch to be of similar standard. Severity of asthma on presentation, as measured by peak flow and pulse rates showed no difference between Christchurch and Southampton.

**P0186**  
**CORRELATION BETWEEN MISUSE OF METERED-DOSE INHALERS AND SEVERITY OF ASTHMA**  
H. Karsenty, C. Thiriet. 3M Medica, Medical Department, Malakoff, France.

Numerous studies have shown that a large percentage of patients with asthma use metered-dose inhalers (MDI) improperly. It has been suggested that misuse of  $\beta_2$ -agonists MDI could result in insufficient bronchodilator effect. To investigate the relationship between the technique of use of MDI and the severity of asthma, we carried out a survey of asthmatic outpatients recruited by 188 pulmonologists in private practice. The doctors filled a questionnaire for each patient; to avoid bias, doctors were not informed about the search for a relationship between the technique of use of MDI and the severity of asthma. The questionnaire was devised to obtain information on the clinical features of asthma, and lung function, as assessed by measurements of peak expiratory flow rate (PEF) and forced expiratory volume in one second (FEV<sub>1</sub>). Use of MDI was empirically scored between 0 (inappropriate technique) and 10 (perfect technique). The technique of use of MDI and, clinical and functional data were compared using the least square method or Student's test as appropriate. 1196 asthmatic patients who regularly use a  $\beta_2$ -agonist MDI participated in this survey. Results of comparisons are indicated in the following table:

	p
Frequency of attacks during the previous month	<0.001
Continuous symptoms	<0.001
Nocturnal asthma symptoms	<0.001
PEF (l/min)	<0.001
FEV <sub>1</sub> (% predicted)	<0.001

We conclude that there is a significant correlation between misuse of MDI and severe asthma symptoms, and altered lung function. These data support the notion that misuse of  $\beta_2$ -agonist MDI results in insufficient bronchodilator effect.